

ABSTRACT OF THE DISCLOSURE

A semiconductor device according to one embodiment includes a substrate, a semiconductor chip arranged on the substrate, a first electrode formed in the substrate and connected to the semiconductor chip, a concave portion provided on a side of the substrate, the concave portion being formed to a depth not to reach a top of the substrate from a back of the substrate, and at least part of the first electrode being exposed to the concave portion, and a metal layer formed on the at least part of the first electrode.

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CONFIDENTIAL - SECURITY